Amendments to the Claims:

The following is a complete list of claims indicating the changes incorporated by the present amendment and replacing all prior versions of the claims. Any claims canceled herein and all deletions made in claims that are not canceled herein are done so without prejudice to being re-instituted at a later date in this or a related application.

Listing of Claims:

1. (original): A lyophilized bead suitable for use in the amplification of a nucleic acid sequence, said lyophilized bead comprising:

a thermally stable enzyme; and

mannitol;

wherein said lyophilized bead has a weight percentage of said mannitol of between about 53% and about 75% (w/w).

2. (original): The lyophilized bead of claim **1**, wherein said amplification occurs in a reaction mixture comprising a volume of between about 5 μL and about 200 μL.

3. (original): The lyophilized bead of claim **1**, further comprising a nucleoside triphosphate or a derivative thereof.

4. (original): The lyophilized bead of claim **1**, wherein said lyophilized bead has an average cross-section of between about 1 millimeter and about 4.5 millimeters.

5. (original): The lyophilized bead of claim **1**, wherein said weight percentage is between about 62% and about 75% (w/w).

6. (original): The lyophilized bead of claim **5**, wherein said weight percentage is between about 68% and about 75% (w/w).

7. (original): The lyophilized bead of claim **1**, wherein said thermally stable enzyme is selected from the group consisting of polymerase, ligase, and combinations thereof.

8. (previously presented): The lyophilized bead of claim **1**, further comprising a component selected from the group consisting of an antibody that inactivates a polymerase and a wax or oil to sequester magnesium.

9. (original): The lyophilized bead of claim **1**, further comprising HEPES.

10. (original): The lyophilized bead of claim **1**, further comprising a probe.

11. (withdrawn): The lyophilized bead of claim **1**, further comprising a reverse transcriptase.

12. (original): The lyophilized bead of claim **1**, further comprising an internal control.

13. (withdrawn): A lyophilized bead suitable for use in the amplification of a nucleic acid sequence, said lyophilized bead comprising:

a forward polynucleotide primer;

a reverse polynucleotide primer; and

mannitol;

wherein said lyophilized bead has a weight percentage of said mannitol of between about 53% and about 75% (w/w).

14. (withdrawn): The lyophilized bead of claim **13**, wherein said amplification occurs in a reaction mixture comprising a volume of between about 5 μL and about 200 μL.

15. (withdrawn): The lyophilized bead of claim **13**, wherein said lyophilized bead has an average cross-section of between about 1 millimeter and about 4.5 millimeters.

16. (withdrawn): The lyophilized bead of claim **13**, wherein said weight percentage is between about 62% and about 75% (w/w).

17. (withdrawn): The lyophilized bead of claim **16**, wherein said weight percentage is between about 68% and about 75% (w/w).

18. (withdrawn): The lyophilized bead of claim **13**, further comprising HEPES.

19. (withdrawn): The lyophilized bead of claim **13**, further comprising a probe.

20. (withdrawn): The lyophilized bead of claim **13**, further comprising an internal control.

21. (withdrawn): The lyophilized bead of claim **13**, wherein said nucleic acid sequence is selected from the group consisting of bacterial, fungal, and viral nucleic acid sequences.

22. (withdrawn): The lyophilized bead of claim **21**, wherein said bacterial nucleic acid sequence is derived from a member selected from the group consisting of *Bacillus Anthracis, Yersinia pestis, Clostridium botulinum, Francisella tularensis*, Group B *Streptococcus*, *Neisseria gonorrhoeae, Chlamydia trachomatis,* and *Xylella fastidiosa.*

23. (withdrawn): The lyophilized bead of claim **21**, wherein said viral nucleic acid sequence is derived from a member selected from the group consisting of Vaccinia, West Nile Fever virus, Equine Encephalitis virus, and Foot and Mouth Disease virus.

24. (withdrawn): A method for the amplification of a nucleic acid sequence, said method comprising:

(a) dissolving a lyophilized bead in a liquid, wherein said lyophilized bead comprises:

a thermally stable enzyme; and

mannitol;

wherein said lyophilized bead has a weight percentage of said mannitol of between about 53% and about 75% (w/w), thus forming a reaction mixture; and

(b) subjecting said reaction mixture to an amplification reaction.

25. (withdrawn): The method of claim **24**, wherein said reaction mixture further comprises a volume of between about 5 μL and about 200 μL.

26. (withdrawn): The method of claim **24**, wherein said reaction mixture further comprises a nucleoside triphosphate or a derivative thereof.

27. (withdrawn): The method of claim **24**, wherein said thermally stable enzyme is selected from the group consisting of polymerase, ligase, and combinations thereof.

28. (withdrawn): The method of claim **24**, wherein said reaction mixture further comprises a forward polynucleotide primer.

29. (withdrawn): The method of claim **24**, wherein said reaction mixture further comprises a reverse polynucleotide primer.

30. (withdrawn): The method of claim **24**, wherein said reaction mixture further comprises a probe.

31. (withdrawn): The method of claim **24**, wherein said reaction mixture further comprises a nucleic acid comprising said nucleic acid sequence.

32. (withdrawn): The method of claim **24**, wherein said reaction mixture further comprises HEPES.

33. (withdrawn): The method of claim **24**, wherein said reaction mixture further comprises an internal control.

34. (withdrawn): The method of claim **24**, wherein said reaction mixture further comprises a hot start methodology.

35. (withdrawn): The method of claim **24**, wherein said lyophilized bead has an average cross-section of between about 1 millimeter and about 4.5 millimeters.

36. (withdrawn): A method for the amplification of a nucleic acid sequence, said method comprising:

(a) dissolving a lyophilized bead in a liquid, wherein said lyophilized bead comprises:

a forward polynucleotide primer;

a reverse polynucleotide primer; and

mannitol; and

wherein said lyophilized bead has a weight percentage of said mannitol of between about 53% and about 75% (w/w), thus forming a reaction mixture; and

(b) subjecting said reaction mixture to an amplification reaction.

37. (withdrawn): The method of claim **36**, wherein said reaction mixture further comprises a volume of between about 5 μL and about 200 μL.

38. (withdrawn): The method of claim **36**, wherein said reaction mixture further comprises a nucleoside triphosphate or a derivative thereof.

39. (withdrawn): The method of claim **36**, wherein said reaction mixture further comprises a probe.

40. (withdrawn): The method of claim **36**, wherein said reaction mixture further comprises a nucleic acid comprising said nucleic acid sequence.

41. (withdrawn): The method of claim **36**, wherein said reaction mixture further comprises HEPES.

42. (withdrawn): The method of claim **36**, wherein said reaction mixture further comprises a thermally stable enzyme.

43. (withdrawn): The method of claim **36**, wherein said reaction mixture further comprises an internal control.

44. (withdrawn): The method of claim **36**, wherein said lyophilized bead has an average cross-section of between about 1 millimeter and about 4.5 millimeters.

45. (original): A lyophilized bead suitable for use in the amplification of a nucleic acid sequence, prepared by a process comprising:

(a) creating an aqueous solution, said aqueous solution comprising:

a thermally stable enzyme; and

mannitol;

wherein said solution has a concentration of said mannitol between about 0.38 M (moles of mannitol/liter of solution) and about 0.99 M (moles of mannitol/liter of solution);

(b) quick-freezing the product of (a); and

(c) freeze-drying the product of (b).

46. (original): The lyophilized bead of claim **45**, wherein the product of (c) has an average cross-section of between about 1 millimeter and about 4.5 millimeters.

47. (original): The lyophilized bead of claim **45**, wherein the product of (c) further comprises a nucleoside triphosphate or a derivative thereof.

48. (original): The lyophilized bead of claim **45**, wherein said thermally stable enzyme is selected from the group consisting of polymerase, ligase, and combinations thereof.

49. (withdrawn): The lyophilized bead of claim **45**, wherein the product of (c) further comprises a reverse transcriptase.

50. (previously presented): The lyophilized bead of claim **45**, wherein the product of (c) further comprises a component selected from the group consisting of an antibody that inactivates a polymerase and a wax or oil to sequester magnesium.

51. (original): The lyophilized bead of claim **45**, wherein the product of (c) further comprises HEPES.

52. (original): The lyophilized bead of claim **45**, wherein the product of (c) further comprises a probe.

53. (original): The lyophilized bead of claim **45**, wherein the product of (c) further comprises an internal control.

54. (withdrawn): A lyophilized bead suitable for use in the amplification of a nucleic acid sequence, prepared by a process comprising:

(a) creating an aqueous solution, said aqueous solution comprising:

a forward polynucleotide primer;

a reverse polynucleotide primer; and

mannitol;

wherein said solution has a concentration of said mannitol between about 0.38 M (moles of mannitol/liter of solution) and about 0.99 M (moles of mannitol/liter of solution);

(b) quick-freezing the product of (a); and

(c) freeze-drying the product of (b).

55. (withdrawn): The lyophilized bead of claim **54**, wherein the product of (c) has an average cross-section of between about 1 millimeter and about 4.5 millimeters.

56. (withdrawn): The lyophilized bead of claim **54**, wherein the product of (c) further comprises a nucleoside triphosphate or a derivative thereof.

57. (withdrawn): The lyophilized bead of claim **54**, wherein the product of (c) further comprises HEPES.

58. (withdrawn): The lyophilized bead of claim **54**, wherein the product of (c) further comprises a probe.

59. (withdrawn): The lyophilized bead of claim **54**, wherein the product of (c) further comprises an internal control.

60. (withdrawn): A lyophilized bead suitable for use in microanalytic systems comprising:

a moisture-sensitive reactant; and

mannitol;

wherein said lyophilized bead has a weight percentage of said mannitol of between about 53% and about 75% (w/w); and

wherein said lyophilized bead has an average cross-section of between about 1 millimeter and about 4.5 millimeters.

61. (withdrawn): The lyophilized bead of claim **60**, wherein said weight percentage is between about 62% and about 75% (w/w).

62. (withdrawn): The lyophilized bead of claim **60**, wherein said weight percentage is between about 68% and about 75% (w/w).